- The nature of the community and type of participation most useful for vector control, e.g. identification of target groups, those most at risk from the prevailing diseases and priority problems.
- How people use time to assess their availability for participating in vector control activities.
- Perceptions of health and disease so as to incorporate indigenous concepts of health and disease transmission into health education programs.
- Local perceptions of costs and benefits of disease as they affect participation in disease vector control measures.

6. Malaria Information Systems:

For any health authority, the health information systems **provide for planning, management, and evaluation of its health services.** Unfortunately, no national health information system (HIS) exists in present Afghanistan. The disrupted health sector is posing serious problems for all those who are concerned about health in the country. Nonetheless, the planning workshop has to workout **mechanisms, within the existing health care structures**, through which **routine health information are adequately and regularly collected and reported from the periphery to the center (being it provincial, regional or national).** UN agencies and the technical coordinating committees have to facilitate the establishment of these mechanisms.

In line with the new approach, malaria epidemiological information system should be **reoriented to disease management and:**

- Be integrated into the proposed general health information mechanism, so that health services can take full responsibility in managing malaria.
- Be decentralized in such a manner that the information could be promptly used for decision-making at the level where the information is collected.
- The information should better reflect clinical disease, death and disease management aspects.

The design and functioning of epidemiological information systems should be intimately related to the objectives and expected out comes of malaria control program. Indicators related to objectives (targets) of various interventions and activities should be adopted and used accordingly. Bellow is example of some outcome indicators.

Indicators of outcome for different activities:

i. Disease management:

It is most important to monitor the proportion of patients of target groups that are managed in accordance with the national policy. This may be done through sample surveys.
The corresponding indicators could be as follows:

- Proportion of health workers who correctly apply criteria for diagnosis of malaria for patients with fever.
- Proportion of health workers who provide treatment in accordance with the national policy to patients whom they have diagnosed as having malaria.
- Proportion of health workers who refer those patients who meet the criteria for referral for a malaria-related cause.

ii. Facility resources:

Indicators to monitor facility resources may be as follows:

- Proportion of facilities in which health workers can produce and use a flow chart for disease management of malaria.
- Proportion of facilities reporting that they did not experience any interruption of stock of antimalaria drugs during a specified period, and there were sufficient drugs to treat all patients correctly during that time.
- Proportion of facilities with at least one functional microscope.
- Proportion of facilities where microscopic diagnosis of malaria is adequately performed within three hours of request during day time working hours.

iii. Community resources:

a. Proportion of patients, among those to whom antimalarials were prescribed, who report that they know where to obtain a full treatment dose.
b. Proportion of villagers with a source of antimalarials accessible within less than one hour's walk.

iv. Anti-vector activities:

A minimum number of simple indicators should be used which reflect coverage, timing, performance of staff/equipment, and cost. Examples are:

- Proportion of households targeted for bednets that have one net per bed where some one is sleeping.
- Proportion of households with bednets in which it is found, during the season of intense transmission, that nets were re-impregnated during the past six months.
- Proportion of targeted households with at least one member trained in bednet use, impregnation and maintenance.
- Proportion of targeted villages where there is a service for insecticide impregnation of bednets and/or other materials suitable for impregnation.
- Proportion of rice fields to which *Gambusia* fish introduced out of the targeted.
- Proportion of rice farmers in targeted fields who trained in *Gambusia* methodology.
- Proportion of the breeding sites treated by larvicides out of the targeted.

- Proportion of breeding sites eliminated by environmental management methods out of the targeted.
-

v. **Epidemic control:**

Spraying operation might be needed for curbing epidemics. A contingency plan has to be set during the planning workshop. The selection of the appropriate insecticide to be used should be based on vector susceptibility and cost. External support from more than one donor/agency might be needed.

The above indicators for disease management and vector control should be utilized, as well as indicators of preparedness for epidemics and indicators of forecasting or early detection of epidemics.

- Existence of an updated contingency plan for epidemic control.
- Number of sprayers and transport units in working condition.
- Existence of contingency stocks of drugs and insecticides.

vi. **Resistance to drugs:**

The responsibility for monitoring of indicators of resistance to drugs, which may start as part of an applied field research program, should be **assigned to the surveillance system.** It should become a **routine activity**, based on a network of sentinel posts at health care units and supported by a team at the central level. Sentinel posts should record the number of laboratory confirmed malaria patients who received treatment and the number of treatment failures. If an unusual increase in treatment failures is reported, a team from the central or provincial level should check the finding by application of rigorous protocol assessing parasitological and clinical parameters in a sample of patients.

MALARIA AND LEISHMANIASIS CONTROL PROGRAMME
FOR AFGHANISTAN

Guidelines for preparation of the national plan of action

(1999 Planning workshop)

Strategy: (Malaria)

Global Strategy for Malaria Control

The four technical elements of this strategy are:

- To provide early diagnosis and prompt treatment.

- To plan and implement selective and sustainable preventive measures including vector control.

- To detect early, contain or prevent epidemics.

- To reassess regularly the country's malaria situation, in particular the ecological, social and economic determinants of the disease.

Afghanistan's Plan of Action:

Formulation of any approach towards attaining specific control targets, in accordance with the global strategy, **necessitates the reorientation** of all antimalaria activities within the existing health system of Afghanistan, along with an in-depth involvement of local communities and other interested local or international bodies.

The main thrust of such a plan is to enable all population at risk to have **access** to adequate malaria **management** through improved treatment capabilities and establishment of referral mechanisms. **Disease management has to be recognized as a program priority. This entails the integration of malaria control program into the general health services (MOPH and NGOs) as well as the evolving primary health care structures. It also entails the need to identify the actual and potential role of all providers of health care in Afghanistan.**

Appropriate methods of disease prevention, suitable for the current situation, have to be selected and used.
Insecticide impregnated bednets, **larvivorous fish**, and **larviciding** operations, in areas where they have been implemented, so far, have already proven effective.
Environmental management, utilizing local **communities,** has to be considered one of the methods of **choice** for present Afghanistan.

(NB. given the current disrupted infrastructures and resource unavailability, insecticides spraying should be spared, only, for curbing epidemics).



Other necessary principles to be followed in Afghanistan are:

- Training for different categories of health workers remains an **essential component** of the control program. Health education for local communities is another essential component.
- Generation of epidemiological information by the **general health services**.
- Control of **epidemics**.
- Applied **field research**.

Without losing the inputs of the **specialized** competence, it must be clearly emphasized that **the previous vertical program is no longer warranted.**
The experiences and expertise available at some of the remaining malaria reference centers nationwide, i.e. veterans who have previously focused on eradication, should **not be sacrificed**. They should be **reoriented and well utilized, within the context of the new approach,** in different fields where **specialized** malaria/leishmania activities are needed. Experts on the different aspects of control should be **members of the proposed malaria/leishmania committees.** They will be an important element in the **core of national experts** who are supposed shoulder the responsibility of planning and implementation of all antimalaria/ leishmaniasis activities.

"The impact objective of this plan, in accordance with the global strategy, is to reduce or prevent mortality and to reduce morbidity and social and economic losses due to the disease through the progressive improvement and strengthening of local and national capabilities."

Very important:

The political approval for the new approach is essential. A strong political commitment to it must be obtained beforehand.

In Preparations for the Workshop:

The following key information has to be prepared and presented to the planning workshop:
(Mapping is desirable).

- Preliminary stratification of malarious areas (by region/ province/ district).
- Rice cultivated areas.
- Estimated population at risk of malaria.
- Areas with recorded epidemics.
- Number and type of health facilities available and number of population served.
- Number of health facilities with at least one functional microscope.
- Specimen of malaria reporting forms.
- Under-served malarious areas and number of under-served population.
- Number of villages targeted with bednets and number of bednets distributed.
- List of drugs commonly used for the treatment of malaria.

During The Planning Process:

1. The following points have to be born in mind:

- Activities planned should be target oriented, with measurable outcome.
- Monitoring and evaluation are essential. They require a set of quantifiable indicators that correspond to the particular targets.

2. The National Antimalarial Drug Policy:

The National Antimalarial Drug Policy is the set of recommendations and regulations concerning antimalarial drugs and their utilization in a country. It is part of the National Drug Policy and of the National Malaria Control Policy.
The purpose of an antimalaria drug policy is to ensure the rational use of antimalaria drugs, namely patients with malaria receive effective treatment which as nontoxic as possible, and affordable, and that the drugs are used in a way which minimizes unnecessary drug pressure.
Some regulations e.g. pricing, supply, distribution, quality assurance and prescription have to be worked out during the planning exercise (see disease management).

"This policy, once formulated and approved, should be notified to all health care providers and its application respected by all."

3. The successful implementation of the plan depends on two main factors:

a) Strong **commitment** by all partners (MOPH, UN agencies, NGOs) to what has been planned.
b) **Financial** support.

ASPECTS OF THE PLAN

1. Program Management:

Target: Afghanistan will have central and regional malaria units directed by a core of Competent specialists.

Outcome: Well-managed units in the ministry of health.

Indicators:
- **The number and qualification of the technical staff recruited.**

Ideally the program should fulfill the following managerial aspects:

a. Planning:
Malaria control planning should be an integral part of **the national plan for health development**. Malaria control program should be **integrated into the general health services** without losing the inputs of the specialized competence.
At the central level, a malaria component of epidemiological services should be responsible for:

- National planning.
- Providing technical guidance.
- Regular evaluation of the national program.
- Field research.
- Training.

At the regional level, specific competence should be available for the planning of antimalaria activities, their implementation and monitoring and assessment of their impact on the health of the communities concerned.
Planning of activities should normally start at the provincial level and finalized, for the whole country at the central level.

b. Implementation:

Program execution should be the responsibility of the intermediate (i.e. regional/provincial) and peripheral levels, through technical structures that have to be strengthened for this purpose.

c. Evaluation:

Is an integral part of the managerial process. Evaluation and monitoring have to be carried out continuously at all levels of the program execution and management. A

central unit will collate data, analyze and disseminate feedback information to all concerned.

d. Coordination:

National coordinating committees, composed of representatives of intra- and inter- sectoral bodies should be established. Similar committees are required at the intermediate level.

However, to set a **realistic and workable** plan that addresses the prevailing situation, special consideration should be given to the **fragmented** health system where **different, and somewhat fully independent,** health care providers (MOPH and NGOs community) are contributing to health care delivery in the country. At the same time, there are some positive developments, which have occurred within the MOPH and have to be carefully looked at:

a. Restructuring and reactivation of the different departments of the Ministry of Public Health (MOPH) is an ongoing process.
b. Creation of a department responsible for PHC/Preventive Medicine headed by a medical doctor.
c. The Institute of Malaria and Parasitic Diseases (IMPD), the patron of all antimalaria activities since the eradication era, was affiliated to the above-mentioned department.
d. A medical doctor, trained through WHO fellowship on Malariology, was appointed as the president of the IMPD.

These developments signal slow, yet gradual, reforms on the right track and have to be encouraged for further consolidation and expansion to the regional, provincial, and peripheral levels.

Thus, in the light of these realities and developments, which are both valid and worth appreciation, a **genuine partnership** that incorporates all efforts is indispensable. The common goal for all stakeholders should be to address the prevailing challenges and, at the same time, lay the foundation for a long-term national capacity building.
WHO, UNICEF and other UN agencies should **broker and facilitate** active coordination and collaboration between all health care providers. The prescribed formula should be:
Formation of malaria committees, composed of the major health care providers (MOPH and NGOs) to tackle all technical and managerial issues related to malaria.

2. Disease Management:

Objective: Morbidity and mortality due to malaria will be decreased.

Outcome: Well-functioning system for supply of antimalaria drugs and diagnostic means to assure prompt diagnosis and treatment of cases.

Indicators: (See HIS chapter).

NB: Teaching-learning material on diagnosis, treatment, and other aspects of malaria control for different categories of health workers were developed and printed, in Dari language, by WHO Afghanistan and made available to MOPH health facilities through WHO sub-offices and to NGOs through their coordinating bodies i.e. ABCBAR, ICC and ANCP.

a. Antimalarial Drug Policy for Afghanistan:

The national Malaria Control Program is normally responsible for the formulation and updating of the National Antimalarial Drug Policy. However, in the case of Afghanistan, the MOPH has to undertake additional responsibility as regards to regulations and quality of drugs. If it is found to be difficult, at this stage, to legislate and control, then the other possibility is the production and dissemination of information material for prescribers and pharmacies which advocates the rational use of nationally recommended drugs.
The participation of several other sectors will be required, especially for implementation. These sectors include:

One) Within the health sector: General health services (MOPH & NGOs), private health care, traditional healers, pharmacies, drug importers, unlicensed drug sellers, medical schools, health education.

Two) Outside the health sector: The general education system and the media.

Antimalarial drugs recommended for Afghanistan and guidelines on their use:

- **Chloroquine as the first-line treatment** (regimen: 3 doses, 10 mg/kg on 1st and 2nd day, 5 mg/kg on third day).

In case of clinical failure for chloroquine (provided that compliance is maintained):

- **Sulfadoxine-pyrimethamine** (Fansidar) **as the second-line treatment** (regimen: single dose, 25 mg/kg sulfadoxine plus 1.25 mg/kg pyrimethamine

- **Quinine** is recommended for the **treatment of complicated malaria** (regimen: 10 mg/kg, 3 times/day, for 7 days).

b. Early diagnosis and prompt treatment:

The main issue in the reorientation of the plan towards disease management is the **provision of treatment** aiming to cure the patients of their disease, rather than to **reduce parasite reservoirs.**

The diagnosis of malaria is based on assessment of clinical and laboratory findings. For routine use in health services and malaria surveillance, microscopy is still the best diagnostic tool. While clinical diagnosis is the most common form of malaria diagnosis in highly endemic areas, the diagnosis of parasite species becomes essential in drug-resistant *P. falciparum* areas.

Clinical diagnosis of malaria should remain the most **utilized** diagnostic method. With this in view, the utilization of **flow charts** such as "The Sick Child Chart" being developed by WHO and UNICEF, will be of great help particularly at the periphery. The books published by WHO in local language provide the necessary guidance to the health workers at different levels of health care services.

The purpose of **microscopical** diagnosis of malaria is to **improve the management** of the febrile patient; it also enhances **epidemiological information**. It would be desirable that all suspected cases of malaria are confirmed by microscopy. This aim is definitely subject to considerable **constraints** at the primary level. So the **priority** in the microscopy should be given to the **confirmation of treatment failures and severe and complicated cases.**
Nonetheless, it is recommended that laboratory network be strengthened and expanded towards the periphery. Malaria control program should assure the **quality** of laboratory diagnosis in the health services through **supervision and quality control**. This must **precede expansion** of the laboratory network.

Early diagnosis and prompt treatment should be improved through:

- Decentralization of laboratory facilities.
- Introduction of diagnostic algorithms (flow charts).
- Making treatment available at the peripheral level, mostly through the PHC system, and utilization of other mechanisms (volunteers, schoolteachers, religious and community leaders etc.).

It is important to develop referral mechanisms, through which malaria cases, not responding to treatment, severe, and complicated, can receive appropriate management at a higher level of health care.
Referral points, within the existing health structures, have to be identified and strengthened.

3. Disease Prevention:

Objective: Implementation of selective and sustainable preventive measures including Vector control.

- **Personal protection using:** Insecticide impregnated bednets.
- **Larval control using:**
  - Biological control (larvivorous *Gambusia* fish).
  - Peri-urban larviciding.
  - Environmental management.

Outcome: Reduction and interruption of transmission.

Sustainable vector control means the application of affordable, repetitive or continuous actions requiring availability of skilled human resources, and costly supplies, equipment and logistic support. A sustainable action also depends on how long the chosen intervention may remain effective.
A bednet treated with insecticide, if properly used, can provide personal protection from malaria and leishmaniasis throughout the transmission season (it remains effective for up to 6-8 months). If the bednet is well maintained and used can last for seven years.
The extra advantage of the use of insecticide impregnated bednets is that they can help in control of more than one vector. The bednets when primarily used for malaria vectors, mosquitoes, they are known to have contributed in the control of flies, bed bug, and lice. Therefore, bednets are a **tool for integrated disease control (IDC).**

Insecticide-impregnated bednets, *Gambusia* fish, and peri-urban larviciding in some selected areas are viable methods with proven effectiveness in present Afghanistan. Environmental management is expected to give the desired impact on vector control provided that local communities are well utilized. Community involvement is a prerequisite for the successful implementation of any of the disease preventive measures mentioned above (see community mobilization).

4. Training:

In accordance with the Global Strategy, the objective of training is to increase competence in disease management, epidemiology, appropriate use of vector control, and prevention and control of epidemics. This entails not only instructions in new skills, but also some re-direction away from some certain ingrained practices.

Training should be task-based, problem- solving, practical and interactive. Skills to be emphasized include the ability to teach others at more basic levels, including the community.

Retraining is essential to reorient workers who have previously focused on eradication. In-service training enhances skills, while helping workers to adjust their activities to changing epidemiological situations.

Training should take place at levels relevant to the tasks that are required, whether at international courses or in rural centers. As a general guide, the training environment should reflect working conditions as closely as possible.

The major areas of specific training needs are:

- Program management.
- Malaria epidemiology and control.
- Quality disease management at all levels of the health system, including disease diagnosis (clinically and microscopically).
- Statistical analysis (including collection, analysis interpretation of data for planning and evaluation, and criteria for epidemiological stratification).
- Health education methodology.
- Community and intersectoral mobilization techniques.

5. Community Mobilization:

Although the idea of self-help has been around for a long time, there is an awakening throughout the world that self-help is one of the most promising developments for poor rural and urban communities.
One major aspect of program development is an understanding that people are a **fundamental national resource** and their potential can be developed through **education, motivation, and action**.
Several means are available for the international community (UN agencies and NGOs), through many of their community-based as well as mass media programs, to enhance the community organization, mobilization and participation in antimalaria/leishmania activities.
It has to be recognized that community participation must mean the strengthening of people's participation in the health-related process which includes their involvement in planning, designing and implementing programs in partnership with relevant agencies so as to respond effectively to community needs and priorities.
Vector control activities are the most to accommodate and benefit from community participation.
Some concepts of primary health care, which are particularly relevant to vector control:
(a) Using acceptable technology, which the community can afford.
(b) Using appropriate education to develop the ability of communities to participate.
(c) Involving, in addition to the health sector, all related sectors.
(d) Identifying health activities the community can carry out.

Understanding the following additional factors can facilitate promotion of participation.